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TORREYA

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Vol. 16

No. 10

THE ASCENT OF THE TURQUINO, THE HIGHEST MOUNTAIN IN CUBA

[In TORREYA for December, 1915, brief note was made of the ascent of this mountain by a Scandinavian botanist, Dr. E. L. Ekman, with the observation that he was probably the first botanist to reach the top. But the mountain had been climbed years ago by an Englishman who wrote to his mother the account of the expedition printed below. This was given to Dr. Britton by the late Jennings S. Cox, of Santiago, and permission to print it was received from Charles T. Ramsden, Esq., of Guantanamo, a son of the explorer. The description is printed here as a guide to possible future explorers. At the time of making the ascent Mr. F. W. Ramsden was twenty years old, had been in Cuba only two years, and was employed in Santiago de Cuba.—N. T.]

SANTIAGO DE CUBA, 17th April, 1860.

My dear Mother: On my arriving in Cuba last Wednesday I was very glad to find your letter of 9th ult. waiting me together with a packet of papers.

In my last I believe I told you that I intended starting on an expedition to the top of the Pico Turquino, the highest mountain in Cuba. Here I am back again safe and sound, and I think it has done me a great deal of good, as I feel very strong and well after it.

As I have nothing much to say I may as well fill my letter with an account of my trip, tho' I am not sure it will be very interesting.

A few of us here had been talking for some little time back of trying to make the ascent of the mountain, and to find out at

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what elevation it is above the level of the sea, as up to the present time no one had been up, and its height was only *supposed* to be 7,000 odd feet.

When we first spoke of it, a great many people said they would go, but as soon as we began to make definite plans, and the affair seemed likely to come to pass, nearly every one drew back under some pretense or other, so that we found our numbers reduced to five, and in consequence of this were unable to go down the coast in the steamer as at first intended, but had to charter a small sailing vessel, as the steamer would have been too expensive.

I did not at all like the idea of a sailing vessel, as my time is not my own, and I knew we were as likely to be ten days as one, on the passage—but sooner than not go at all, I agreed to it.

Everybody then began to discourage the idea, which is another indication of the Creole character—we were either going to die of fever, caught by sleeping out, or fall down a precipice, or get killed by the wild boars or runaway negroes, and it was certain that we should never get to the top, however we paid no attention to what they said, and as the result proved, they were all wrong.

On Saturday evening 31st Mar. at 7 o'clock we all assembled—viz. Enrique and Agustin Sagebien—civil engineers—Ernest Despaigne—Gent.—Carlos Jenneret—a Swiss watchmaker, and myself—the two last very fond of natural history—and three negroes to carry our things. As soon as we arrived at the wharf, where we were to embark on board the “Ygnacia” (a small schooner of about 40 tons) Capt. José de los Santos—it began to rain, so we waited a little in a tienda near. While there Jenneret managed to knock down our instrument for taking the height (a hypometer) and broke it. He and Enrique went back to Cuba* and borrowed another one smaller and not so tender. So that we were not ready for sea before 10.30. Nearly every night here we have a “terral” or wind off land, which enables the vessels to get out of the bay, but that night as if we were doomed to meet with every possible obstacle, there was none,

* Many people still speak of Santiago de Cuba as simply “Cuba,” Mr. Ramsden writes that the older generation of Cubans always did so.—Ed.

and we did not arrive at the "Morro Castle," (Santiago Harbor) till just before day-break.

My equipment was as follows—that of the rest being something similar—a coarse blue drill sort of smock frock and trousers, thick shoes and a blue flannel shirt, belt containing hunting knife and revolver—game bag—a small pocket flask of whiskey, and another holding an imperial quart of brandy—butterfly net and box and a lot of little *etceteras*. The negroes had charge of our hammocks, blankets and food—the latter of which consisted chiefly of preserved meats and rice—in the way of liquors we had brandy, gin, beer and coffee.

The first night we stretched ourselves on some boards in the hold of the vessel, and afterwards sometimes on deck and sometimes down below, on starting I slung my hammock, but as soon as the vessel began to roll, I found it was swinging backwards and forwards against the corner of a box, the rope having stretched—so being afraid of wearing it out, I left it, and passed the remainder of the night on an old sail. Sunday, 1st April—at day break we found ourselves almost three miles from the Morro, with no wind, and we continued there till Monday, when we had a very slight breeze ahead and managed to make a few miles by tacking. We breakfasted at nine and dined at four—plenty of Catalan oil and garlic—asleep nearly all day, under an awning just thick enough to keep out some of the breeze but not the sun.

Monday, 2nd. Had the pleasure to find we had made no progress during the night. Towards midday a little wind sprang up, and later freshened into a stiff breeze from the southwest, but it dropped suddenly at sundown. This day we made about 20 miles and with a terral at night, on Tuesday, 3rd we found ourselves about three leagues from the mountain, and at 1 p. m. we succeeded in arriving sufficiently near to lower a boat—by means of this and a canoe, which they sent off from the shore, we disembarked, during the passage having to sit down in the bottom of the canoe so as not to upset it, under a tremendous sun—we landed near a small river, in a very picturesque spot called "Las Cuevas," and made our way to the tienda near.

There are only three houses in the bay—viz. the tienda, where they sell a little of everything and buy the wax from the bee-hunters, and which we made our headquarters, owned by Don Antonio Roig—the house of his overseer, or rather only servant—a free negro named Correa—and that of Roig's brother, who I believe has no occupation—but all three join in cutting firewood and Fustic, as return cargo for a small vessel that brings goods from Cuba for the shop. Mrs. Roig, a very ugly brown woman, and a whole troupe of children of the same color gave us a hearty welcome, and stared at us, as if they had never seen a civilized person before. The establishment consisted of three buildings—to the right the kitchen, in the middle the children's bedroom, in front of which was thatched shed without sides, used as dining room etc. and to the left the tienda, consisting of a very small shop, and the bedroom of Mr. and Mrs. Roig.

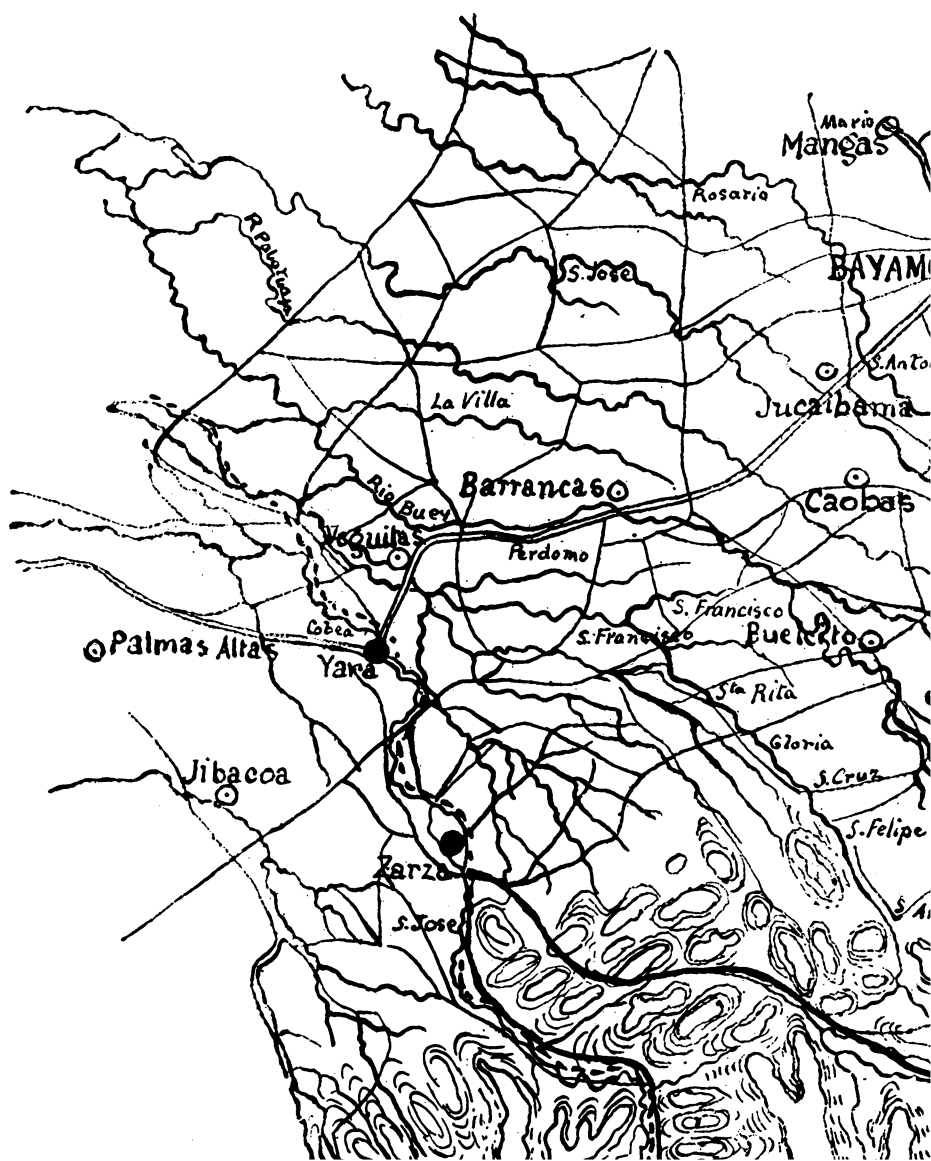
They killed a pig for us on arrival, most of which they cut into strips and dried in the sun to make *tasajo*, leaving us some ribs for dinner and the next day—with this and plenty of yams, bananas, and sweet potatoes, we fared very well.

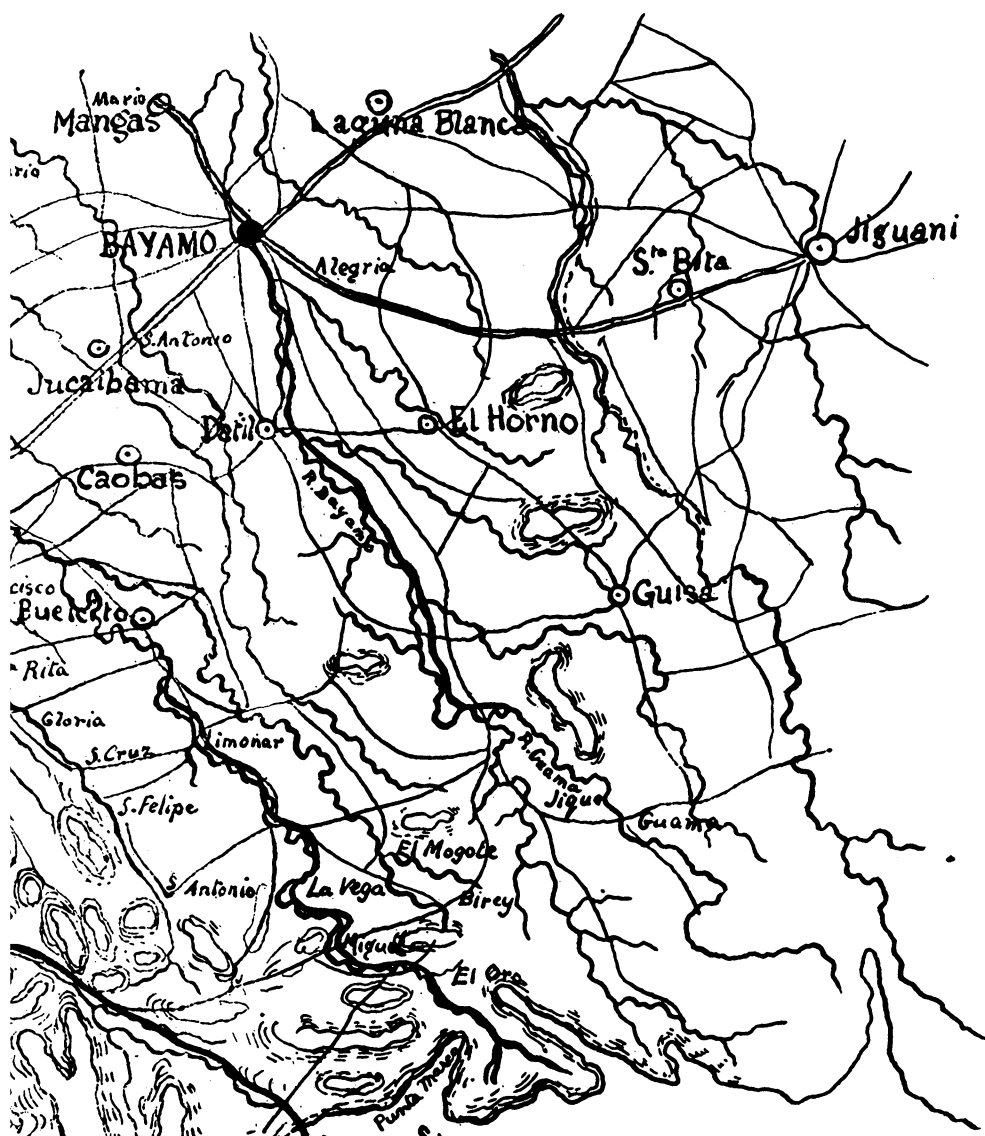
On enquiring for a guide about whom we had previously written, Mr. Roig informed us that he had gone off that morning on business to the Magistrate, a distance of 45 miles, and that we must wait till he came back, as there was no one else—this did not at all suit us, as we had told the patron of the vessel to return for us on the Friday—after questioning for a long time, Mr. Roig at last told us he knew of one man, 9 miles from there, who he thought might do it, and accordingly we sent off to him the same night and in the morning he arrived.

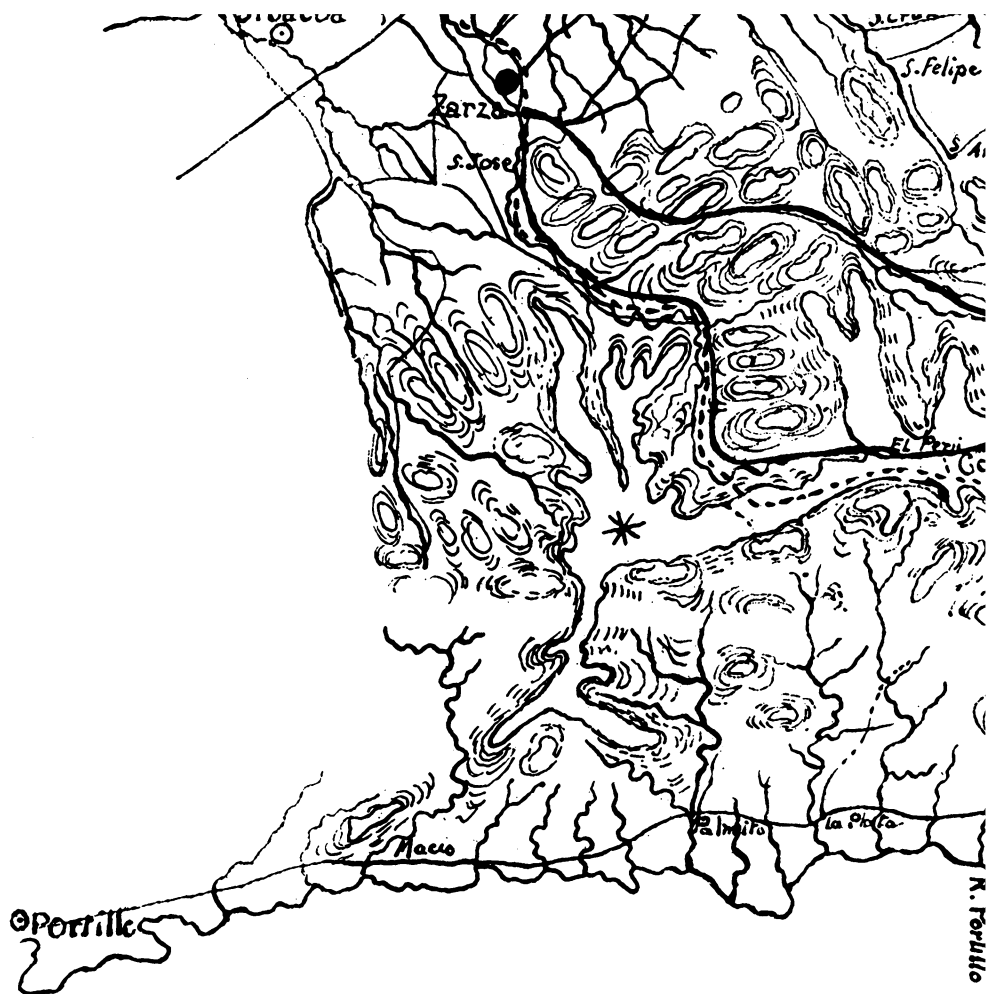
Before dinner I took a stroll with my gun, but I soon came back, having killed a good many pigeons and parrots, literally tired of shooting them, as there were such quantities.

At night Jenneret and I slung our hammocks in the shed, and slept very well, with a nice fresh breeze from the sea, a full moon and no mosquitoes—the other three slept in the shop.

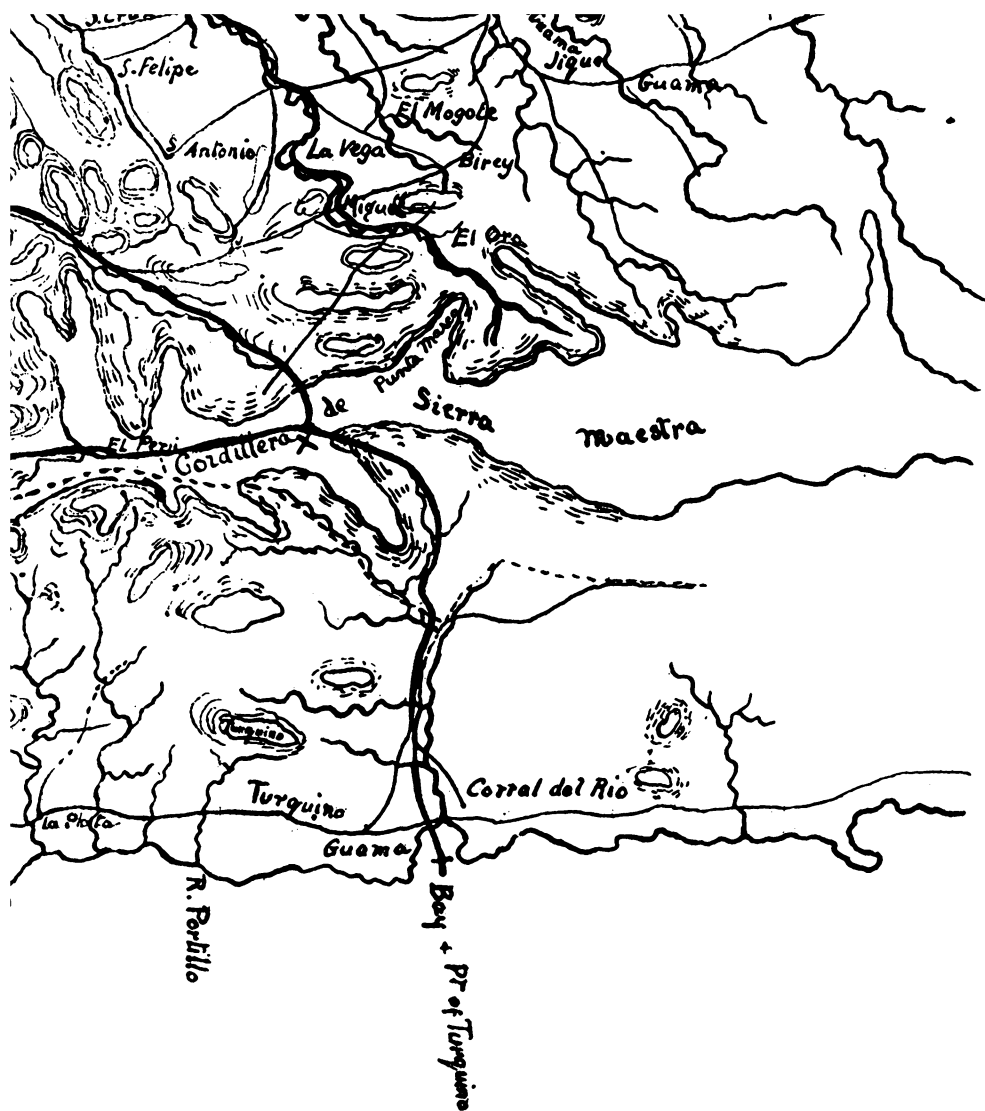
Wednesday, 4th. Up at daybreak and took a bath in the sea, but was afraid to go out of my depth on account of the sharks, of which there are swarms in the bay. I then took my net and







Map of the region around the Turquino, Sierra Maestra, Cuba. From the Bay and Point



m the Bay and Point of Turquino to Santiago de Cuba is about 75 miles to the eastward.

caught some very good butterflies, and when I came in to breakfast, I found our guide arrived—Don Jose Antonio de Leon—a regular character—an ugly raw-boned Indian, of about 6 feet very thin and a great talker—dressed in a pair of trousers, shirt and hat, with a large knife.

After breakfast Enrique Sagebien took two photographic views, one of the house, family and ourselves—and another of us and the sea beach. The first turned out badly, but the second is a good picture.

At 12:45 we started under a burning sun, leaving behind our hammocks and guns, as they were too much to carry—in all 10 persons—viz. five white—3 negroes—the guide and Correa, whom we asked to come.

After crossing three rivers we began to ascend, and then our hard work commenced—at first I thought I should never get along, being out of practice, but by stopping for a minute now and then, we managed to continue—our way lying thro' splendid woods containing Mahogany, Fustic, Palms and many other trees, of which I do not know the English names—and at 5 p. m. we arrived at a considerable height, among the clouds—and finding here a small pool of very dirty water we encamped for the night.

We constructed a sort of "Rancho," with four uprights, a few cross poles, and some palm leaves thrown on the top, as a precaution against the dew—and on the ground put some pieces of "Yagua" Palm, to keep out the damp.

I dont know what part of the tree this is—it is neither leaf nor bark, but grows around the lower part of the stem of the leaf, and drops off once a month—it is very tough—over $\frac{1}{4}$ of an inch in thickness and in pieces of about 3 feet \times 2—they use it here for storing up the bales of tobacco and many other purposes.

Having made a fire and had our dinner and coffee, we smoked and listened to stories of our guide about the captures of palenques of runaway negroes, and went to bed about 8 p. m. wrapped round with our blankets, and with our shoes and game bags for pillows.

Thursday, 5th. I awoke at daybreak finding myself pretty damp from the dew—and hearing the others saying they had hardly slept all night—strange to say I had been fast asleep from the time I went to bed till then.

After taking coffee we shouldered our traps and were again on the march—our way at first was thro' much the same country as on the previous day, but soon the vegetation began to get thicker and smaller with a great number of tree ferns, whose trunks are covered with thorns. I felt quite fresh today, and went along very well with the help of feet and hands. The only thing that gave us any anxiety was want of water—we found none in our way, and did not wish to drink that which we carried in our canteens, as we did not know how long we might be detained in the mountain—On my mentioning this to Correa, he said just here there is plenty of water, and taking out his knife he cut off a piece of a “parra” or vine that I had noticed in great quantities, and holding it over my little cup, it soon filled it with the sap—which was like the clearest and coolest water I ever tasted.

At 9 we stopped for a few minutes to eat some sardines and biscuit, after which I felt decidedly better. We wanted something to keep us up, for almost immediately afterwards we came up on a very bad pass. Suddenly the trees stopped, and before us there seemed to be no way, but another step brought us in sight of a path leading almost perpendicularly up, and at the same time doubling a sharp corner of the mountain—it seemed to me to have been at one time a mountain torrent, as there were no trees, but large pieces of bare rock fixed pretty firmly, but as this did not last for more than a dozen yards, we succeeded in climbing up. A. Sagebien, who was in front of me turned back, saying he had the vertigo, but afterwards we persuaded him to come on—on looking behind you the rock went straight away down, and stopped only to end in the clouds below—this path brought us to the top of a mountain very near Turquino, and from where we could see our old friend.

Feeling again thirst, I asked Correa if he could get me some water here, as we had left the vines far down below, he said yes,

tho' it would not be very clean—and he took my cup and filled it with dirty water full of insects, but not being over particular, I was glad to drink it, insects and all—he had procured it from a plant that grows on the branches of the trees—very like the top of a pine apple, but larger; the dews and rain fall into and remain in the leaves and on cutting it and turning it upside down, of course the water runs out—I dont remember the Indian name, the only one I ever knew.

At this point the guide said he had been no further and was not at all sure that we could proceed—however by dint of a little cutting we made our way to the side of the mountain opposite, which was the lower peak of the Turquino.

Here we came on a most beautiful part, a deep ravine with some good sized trees in it, and all their trunks, as well as the ground covered with moss; so that every thing was entirely green, which produced a very curious appearance—following this for some minutes we were considerably pleased at finding two pools of deliciously cool water, as cold as ice. We emptied our bottles of the water we had prized so much before, and filled them afresh, and drank to our hearts content—a little further on we found two more pools of water, just like ink—it was not the earth at the bottom that gave it the color, but the water itself was of a bluish black.

Round the first pools we found fresh marks of wild boars and struck upon a trail of these animals, leading upwards, which we followed, and after about half an hour arrived at the first peak of Mt. Turquino at 11.15 a. m.

After cutting down some of the bushes to make a small open space, we halted and had breakfast. We could see the other peak looming up among the clouds, and evidently higher than where we were, and a tremendous ravine between us. Some wanted not to go further, as the guide said it was impossible, but Enrique and myself opposed it, saying it would never do to go back without having been to the very top. While we were talking we heard Correa's voice from down below—this decided us, and leaving behind us the negroes and traps we set off at a run down the hill, tumbling over the fallen trees and crashing

thro' the thorny bushes. We soon found Correa, and then we cut our way along the ridge of the mountain, and after a great deal of trouble succeeded in arriving at the highest point in the island of Cuba at 2 p. m.

We passed one splendid place on our way—there was a large narrow piece of rock, like a low wall, at the side of our path, and bending over it, we could look down on the other side. The sight was awful—the rock was perpendicular as far as we could see, and then seemed to lose itself in the thin white vapoury clouds beneath.

We had brought up the Hypometer, and we immediately set it to work to find out the altitude, by lighting the lamp to make the water boil, after having first ascended a tree to make sure that we were on the highest peak. We could not see very far as there were a great many clouds but the lower peaks were plainly visible all round. I wanted to sleep there in order to see the view in the morning, but the others objected saying it was very cold and damp, which certainly was the case.

We drank a bottle of sauterene, brought up for the purpose—cut our initials on the trees—wrote and signed a piece of paper, stating that we had ascended on 5th April, and put it in a bottle, which we buried, making a small heap of stones round. I cut a very good walking stick and caught two beetles, the only insects I saw, and gathered some moss. We then set fire to a pile of rotten wood and ferns hoping it would spread, but it must have gone out after we left on account of the damp.

Neither the guide nor any of us knew the trees on the top, all were dwarfish, the largest I should say not over 16 feet, and of very hard wood—the soil seemed to be very good—plenty of loam—and the few stones there seemed to be hardened pieces of clay, very like bricks (lava).

At the bottom of the ravine we found the bushes cut here and there—some one had apparently crossed between the two peaks, but on the top it was evident that man had never been. The air was very thin and rarified.

At 3.20 we commenced the descent, as fast as we could go coming down half the way in a sitting position, and wondering

how ever we had managed to get up such a place; and every now and then tearing our hands to pieces against the thorny trunks of the tree ferns.

Night overtook us while still walking, and at 7 p. m. we arrived at our camping place of the night before, near the pool of dirty water, after a day's work of 14 hours—from which deducting 2 for breakfast and time spent on the peak, would leave 12 hours of continuous climbing and descending. On arrival in camp I threw myself down, hardly able to breathe, I was not in the least tired, but the sudden transit from the high elevation to the lower seemed to have taken away my breath. However after some soup and coffee, I felt better, and managed to smoke a pipe before going to bed.

About midnight I had the pleasure to be awakened by feeling the rain pattering down upon me—I looked at the guide to see what he would do, and immediately followed his example—viz. took my two pieces of Yagua from under me and put them over me, holding up the piece over my head with my hunting knife, and pressing the end of it against a tree at my head—but it seems I pressed a little too hard, for my knife slipped out and caught me in the face, entering my cheek from the eye to below the mouth. I instantly tied my handkerchief around the place and stopped the blood, and in half an hour as soon as the rain had passed, I was sound asleep again; and never woke till day-break next morning.

Friday 6th, when we took coffee and continued our descent to Las Cuevas, where we arrived at 9:15 a. m. none the worse from our trip, except as regards our clothes, hands and eyes, which were very much torn by the thorns. After breakfast I bathed and then caught butterflies, the rest went to sleep. We passed another first rate night in the old shed and at sunrise Saturday 7th. had the pleasure to see the tops of the masts of our vessel just above the horizon—at 1 o'clock the Patron was on shore, and we embarked at 2, but having no wind, we anchored the vessel and came on shore to dine, after which we took leave of Roig & Co. and went on board to sleep. During the night we had just enough wind to take us out about 6 miles, but afterwards a

calm and on Sunday morning (8th.) we found ourselves in the same place—calm all day—and night came upon us still in the same pleasant position off Turquino. Just after I had gone to bed, I was startled by feeling a very curious motion of the vessel as if it was bumping on the rocks, I asked the Patron what it meant, and he said it was an earthquake, and must have been very strong on land—Calm and very hot all night.

Monday 9th. Still in sight of the beloved mountain, but a little wind later enabled us at last fairly to start—during the day the wind increased and at evening turned into a regular gale from the North east. I fancied we were going to have it pretty strong, as the sun went down with the sky almost black, at midnight one of the sailors woke me up to say that he was very frightened and that we were going to the bottom, but I told him I considered myself as safe where I was as I should be on deck, and went to sleep again notwithstanding the heavy weather, and turned out of bed, after a pretty good night's rest considering, on Tuesday 10th. to find nothing more than a nice fresh breeze and the vessel still afloat—during the day we made very little way, on account of the currents against us, and at sunset we were still 40 miles from Cuba, but a fresh terral sprung up and continued all night, so that we felt sure of arriving next day. At midday the cook came to me to inform me that he had a most delicious soup for dinner—I told him I was glad to hear it, tho' I half expected what it was, when it came we found it to be one of the vilest concoctions we had ever tasted, no one could touch it—it consisted of stale bread, eggs and Catalan oil (rather worse than train oil).

Wednesday 11th. Instead of finding ourselves entering the bay at day-break, as we had expected, we were 12 miles to the South. The poor old Patron having been up all night, lay down early in the morning, and gave the helm to a sailor, who went to sleep at his post, and left the vessel to go just where the wind chose to drive it. However at 12 we arrived at the Morro, and at 1 p. m. were once more on terra firma in Cuba, where we found all the people anxiously expecting us, and in a great state of mind about the earthquakes, of which they had felt some 10 or

12 shocks. During the whole time I had been away, I had slept perfectly well at night, tho' generally sub frigido—but as soon as I came back to my bed, I could not sleep at all. The bed seemed to be much harder than either the boards of the vessel or mother earth—and then also I had to take off my trousers and shoes etc., which I did not at all like after having slept so long with them on.

Altogether we passed a very agreeable time, and I should much like to go again and spend a month in the mountain, and examine all its productions, which I had not time to do as we went so fast—but I must not ask for any more holidays just at present. I cant tell you the height of the mountain this mail, as Sagbien has not yet had time to work out the calculations, but when I know it I will let you know.

Supposing your patience has held out thus far, I think an apology is due from me for the length of my description, as well as for the writing; but when I once get my thoughts fixed on a subject, of which I have the details clearly in my mind, the pen runs on by itself almost without the will of the writer, and I generally find that when I have wished to give a concise account of anything, I have spun it out into a regular long rambling story, of not much interest to any one but the writer.

18th. April. The general Cuban news is not much—the new Governor Dn. Antonio Detona has arrived—no more earthquakes—rainy season just beginning; yellow Jack flourishing—A Spanish theatrical company arrived, and a circus expected—the Bull ring is demolished.

There is nothing to answer in your letter.

Please give my love to Marian and tell her it is some time since I have heard from her. I am sorry to say I must put off answering Aunt Sarah's letter till the end of the month.

This goes by Nariño, who leaves on the 19th. (tomorrow) with his wife—if he does not go to London he will post it.

Hoping you will not be tired out with this letter and with best love to all

I am,

My dear Mother,

Ever your affec. son

(signed) FRED W. RAMSDEN

[In a letter to his mother of 30th April 1860 Mr. Ramsden reports his observations as showing that the mountain top is at 7,980 ft. while "Humboldt put it at 7,900 feet; pretty near as his observations must have been taken from the sea." The modern Century Atlas gives the peak as at 8,400 ft., while Dr. Ekman determined the altitude as 6,800 ft. Whatever the height, it is quite certain that Pico de Turquino (Spanish, for which an equivalent is "Turquoise"—of a deep blue color, hence blue mountain) is the highest peak in Cuba.

In 1906 B. E. Fernow and Norman Taylor, also starting from Santiago de Cuba and going west to the river known as Guama (figured on the accompanying map), explored the region between the Turquino and the sea and to the eastward. No elevation higher than 3,000 ft. was reached and no attempt to reach the top was made.* Collections made on this expedition were deposited at the New York Botanical Garden, among the first to reach there from the Sierra Maestra, the general name for the range of which the Turquino is the culmination.

In March, 1912, collections were made by Dr. Britton and the late John F. Cowell in the eastern part of the range above El Cuero and in the western part near Ensenada de Moro, at elevations under 2,000 ft.†

Brother Leon, of Colegio de la Salle, at Havana, who has explored much of Cuba, writes that "the best way to ascend the Cusp of the Pico Turquino is by the valley of the River Yara, following the spur of the Magdalena; it is nearer and easier. The Ox River (Rio Buey) is farther and steeper, and it is more difficult to get guides; this information was obtained from the father of one of his students.

"The peak can also be ascended from the sea, and it is from this side that up to the present, most of the ascents of which we have any knowledge have been made. But it takes more than a week to reach the hills of Turquino and after that the ascent takes 2 or 3 days good travelling to go up the peak. By the Valley of the Yara it will hardly take a week from the town of the Yara to the summit." It was also from the north or land side of the range that Dr. Ekman, evidently influenced by Brother Leon's advice, made the ascent in April, 1915. An account of his trip follows:—N. T.]

"An interesting interview of a correspondent of the *Cubano Libre* with Dr. Erik L. Ekman, dated May 1, 1915, gives an

* See Jour. N. Y. Bot. Gard. 7: 256-270. 1906. Forestry Quart. 4: 239-273. 1906. Torreya 7: 49-55. 1907.

† Jour. N. Y. Bot. Gard. 13: 72-74.

account of an ascent of the highest peak of the Sierra Maestra on the southeastern coast, in the Province of Oriente.

"On March 19, 1915, Dr. Ekman reached the town of Bayamo, located on a river of the same name and began the exploration of the river, on the northern slopes of the Sierra Maestra, hoping to get up to its source. This he found impossible, so a week later he went to Yara a short distance west of Manzanillo and from there to Zarzal and then to Nagüa, a small town situated near to the confluence of the two rivers, Yara and Nagüa. This is the best place to start on an excursion toward the region of the Pico Turquino. Dr. Ekman was well received by Don Leonardo Verdecia and his son Regino Verdecia y Magana, who showed great ability as a guide. The plan was to ascend the Pico Turquino by following the ridge between the N. and S. tributaries which flow from the divide into two opposite directions till they reached the spur or Estribo Turquino, a spur of the ridge which projects southward near the highest point of the Sierra Maestra. This they were able to accomplish with much difficulty and suffering!

"On the 4th of April the trip was begun, accompanied by Regino Verdecia and Joaquin Rodriguez from Yara. They followed the course of the Yara River, a picturesque stream, affording many fine views. They passed the first night at the junction of the Arroyo Naranjo, at an altitude of 225 meters (750 ft.). The next day the real climb began on a trail which leads to the junction of the River Yara with the La Plata. The Sierra at this part is 925 meters (3,000 ft.) high. We left this trail to follow the ridge of the Cordillera and could only do this by cutting our way through with a machete. At times they feared they were lost as the range divides repeatedly. Once they were lost and ascended a peak of 1,400 meters (4,660 ft.) called the 'Punta de Palma Mocha' heretofore unscaled. An interesting flora was found there and very fine views were had of the surrounding country. They spent the night under a huge rock, which gave them shelter, and had no water to drink except that obtained from the leaves of various species of *Tillandsia* and Bromeliads.

"The third day they spent fighting the thickets and jungles of the high Sierra without being able to reach the southern spur of the Pico Turquino. On the fourth day they succeeded and found that its altitude is about 1,750 meters (5,933 ft.) a point where there was a sudden descent to the south a veritable precipice. Here they had to turn back on account of scarcity of provisions and lived on the return trip on 'Jutias' and wild honey.

"On returning to Nagüa, Dr. Ekman was joined by his friend Mr. Y. A. Mystroem, of Bayate, and on the 14th of April started again for a second ascent of the peak, with an abundance of provisions. In three days by using the trail they had cut 10 days before, they were able to reach the base of the peak, and the fourth day at 4 P.M. on April 17th they reached the summit.

"The vegetation of the summit is sparse, composed of low bushes and trees, representing few species but a veritable paradise of ferns and mosses. On the southern slopes toward the sea, the vegetation is very dense, with low shrubby plants so interlaced that it is possible to walk over the summit without touching the ground. There is no doubt that the ascent from the south is impossible at this point, on account of this low dense vegetation.

While Dr. Ekman searched for plants, his companions searched for traces of any previous explorers. They found a few old pieces of charcoal well hidden, which may have been made by Enrique Mesa in his flight, because in one of his poems, sings of his adventures among the 'Waters of the Turquino.' Perhaps he ascended the peak in order to look for the ship that was to carry him away.* They found no other signs of human visitation except these few pieces of charcoal. They made a large fire to announce to their friends in the valley that they were on the summit. They slept up there and suffered much from cold. They left their signatures up there in an empty bottle (of Ron Bacardi) which they placed in a pile of stones. They were able to determine the altitude of the Pico Turquino as 6,800 ft., though it had been previously estimated at over 8,000 feet. The barometer recorded 2,040 meters!

"Taking advantage of an unknown and unnamed region, they

* This was in 1898, during the Spanish-American War.

named the peaks to the east of the main one Sweden and the one to the west, Cuba, and the two most prominent hills on the southern spur Loma Regino and Loma Joaquin!

"The botanical results of the excursion were good, although no traces of a boreal flora were found, such as exist on the high sierras of the republic of Santo Domingo.

"They returned to Nagüa in three days and bade goodbye to the good doctor with many thanks for his hospitable welcome!

(Signed) "NICOLAS VALVERDE

Translated by ELIZABETH G. BRITTON.

To summarize the recorded exploration of this region: (1) [In 1844 J. J. Linden spent about 6 months in collecting in the vicinity of Santiago, and explored portions of the Sierra Maestra. Sets of his plants are preserved in several European herbaria and a few of his specimens have come to the New York Botanical Garden. (2) About the time of the Civil War, Charles Wright, during his extensive Cuban explorations, visited the eastern portion of the Sierra Maestra at several points, but apparently reached no great altitudes.* (3) We have Mr. Ramsden's in 1860, Fernow and Taylor's in 1906, both starting from Santiago de Cuba, and going by boat to the foot hills of the Turquino facing the sea. Mr. Ramsden made no collections, but the collections of 1906, numbering over 600 specimens, are preserved in the Herbarium of the New York Botanical Garden. All of them are from 3,000 ft. or below and from the south face of the Sierra Maestra. (4) In 1912 Britton and Cowell collected there as mentioned on page 222.

(5) Dr. Ekman, who attacked the mountain from the northern slope made considerable collections, some of which went to Sweden, but at last accounts the bulk of his material was held in Cuba. Being the only botanist who has reached to top it is unfortunate that Dr. Ekman found it possible to spend only a few days in the region. Collections in considerable number from both the windward and leeward sides of this range, and from the top, perhaps only to be gathered by well-equipped expeditions going from different sides, would be most valuable. As yet only a beginning of this work has been made, but further explorations will surely prove most interesting. The region from a floristic and ecological point of view is perhaps the most significant in all Cuba.—N. T.]

* Underwood, L. M. A summary of Charles Wright's exploration in Cuba. Bull. Torrey Club 32: 291-300. 1905.